

United States Patent [19]

Pericic et al.

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[54]	BINOCULAR	BENT-AXIS LOUPES	4,302,087	11/1981	Reinheimer et al 354/75		
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[75]	Inventors: Lin	bomir Pericic, Alphington; Gerard	4,652,094		Kitajima 359/37.5		
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[21]	Appl. No.:	08/244,554	FC	DREIGN	PATENT DOCUMENTS		
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[86]	PCT No.:	PCT/AU92/00634	187311	10/1984	Japan 359/431		
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	§ 102(e) Date: Sep. 1, 1994		OTHER PUBLICATIONS				
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[87]	PCT Pub. No.:	WO93/11454	Harris, Optical Transducer, Oct., 1960, pp. 55-56.				
F3							

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359/431, 413, 414, 375, 377, 385, 368, 409, 480, 481, 482, 471, 473, 475, 476, 477, 478, 479, 647, 661; 351/158, 159

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ABSTRACT

Optical loupes comprise a frame supporting two optical devices, each of which has an ocular and an objective. The frame has side arms or stems and a bridge for enabling the frame to be worn like a pair of spectacles, whereby the optical devices are located immediately in front of the eyes of the viewer. The ocular and the objective each have an optical axis. The optical axis of the ocular and the optical axis of the objective intersect at an angle of about 135°, and a Schmidt prism redirects light from the objective to the ocular in each case. A light source is provided on the frame between the optical devices and provides a gradually diverging light beam to illuminate an object being reviewed. The optical axes of the respective objectives converge at the object being reviewed. The loupes allow the user to observe at a level below his or her normal line of sight while maintaining the head in an upright position.

15 Claims, 3 Drawing Sheets

